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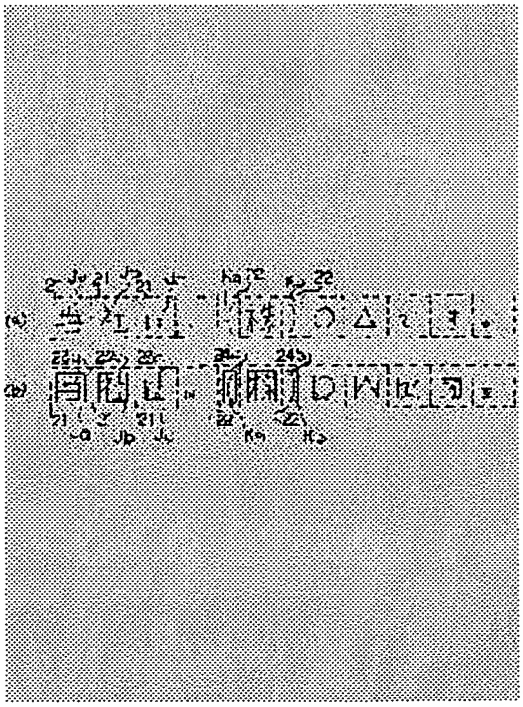
(54) METHOD OF INPUTTING AUTONOMOUS CHARACTER OR THE LIKE, AUTONOMOUS FONT DATA AND METHOD OF USING AUTONOMOUS FONT DATA

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method of inputting autonomous characters or the like which is capable of efficiently and exactly inputting the images of a large quantity of handwritten characters.

SOLUTION: An entry sheet for the characters, etc., is based on the following principle: The sentences shown in Figure 2(a) consists of the fonts of the sizes of broken line frames 21, etc., 22, etc. For these broken line frames 21, etc., 22, etc., the ranges of the respective characters are enclosed by solid line frames 23a, etc., 24a, etc., as shown in Figure 2(b). The respective solid line frames 21, etc., 22, etc., vary in sizes and positions by the kinds of the characters, etc. In freshly forming the fonts, the broken line frames 21, etc., 22, etc., are determined as the regions for capturing the images of the broken line frames 21, etc., 22, etc., and the solid line frames 23a, etc., 24a, etc., are previously determined like Figure 2(b) as the



frames to enter the chambers, etc., in these regions. The entry sheet for the characters, etc., set in the manner described above is used, and if the characters, etc., are entered into these frames and the images are fetched in the regions of the broken line frames, the exact reproduction of the character arrays of Figure 2(b) is made possible.

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CLAIMS

[Claim(s)]
[Claim 1] The image input of the alphabetic character which consists of the alphabetic character of the body in its own hand, a figure, a notation, etc. is carried out through a picture input device. Create outline data, such as an alphabetic character, from this image, and that outline data is changed into the outline font of the body in its own hand based on a standard Page Description Language. In the approach of making the body alphabetic character in one's own hand etc. inputting into the body character-manipulation system in one's own hand which can register the outline font of this body in its own hand as the typefaces and external characters of a text alphabetic character, such as a personal computer The magnitude and physical relationship with the appointed field which specify the range when incorporating to the body character-manipulation system in one's own hand by making into image data the body alphabetic character in one's own hand filled in as the copyboard in which said alphabetic character etc. is entered into the copyboard concerned Based on positioning in texts, such as each alphabetic character, it sets up so that the text of the handwriting of the origin which the text constituted with the body font in its own hand depends on the body alphabetic character in its own hand etc. may be reproduced faithfully. The input approaches, such as a body alphabetic character in one's own hand characterized by carrying out the image input of the body alphabetic character in one's own hand etc. with entry sheets, such as a body alphabetic character in its own hand which comes to arrange many copyboards concerned.
[Claim 2] Body font data in one's own hand characterized by being obtained by the input approaches, such as a body alphabetic character in one's own hand according to claim 1.
[Claim 3] Operation of the body font data in one's own hand characterized by creating printed matter to an airline printer using the body font data in one's own hand according to claim 2.
[Claim 4] Operation of the body font data in one's own hand characterized by using the body font data in one's own hand according to claim 2 for creation and a display of a printing object on electronic media, such as a personal computer, television, the Internet, a cellular phone, and car navigation.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention carries out the image input of the alphabetic character in its own hand, a figure, the notation, etc. through a picture input device ("henceforth an alphabetic character etc."), creates outline data, such as a body alphabetic character in its own hand, from this image, changes that outline data into the outline font based on a standard Page Description Language, and relates to the approach of making the body alphabetic character in one's own hand etc. inputting into the body character-manipulation system in one's own hand which can register this outline font as the typefaces and external characters of a text alphabetic character, such as a personal computer. Moreover, this invention relates to the approach of using the body font data in one's own hand obtained by the approach into which said body alphabetic character in its own hand etc. is made to input, and the body font data in one's own hand concerned.
[0002]
[Description of the Prior Art] While an operating system is installed in information processors, such as a personal computer, various kinds of application software and utility software are also usually installed in them, and according to the purpose, it is used for them. In addition, a word processor is also contained in a "information processor" here.
[0003] The standard-lives font is also contained in the software installed in this information processor, and this standard-lives font is used, and print out the document drawn up in various application software, the electronic mail received through the Internet, a local network, etc. is perused, or it usually prints out. It can be said that the document by this standard-lives font is beautiful, is readable, and fits the in-house document, the utility document, etc. since the typeface is ready. However, it was a typeface businesslike [uniform and] and impersonal, and the document by this standard-lives font also had many people who sense insipid, when using as private use. Of course, although what is necessary is just to have drawn up the document in handwriting in this case, when a document was corrected, also in time, it is not only difficult also in effort to draw up a lot of documents, but it required the still bigger effort.
[0004] Moreover, although the font designed fixed to such inconvenient was also offered, even if it was the font of a fixed design, it was what cannot be said to be his autograph.
[0005] Some systems which create the body font in their own hand which caught his description from such a viewpoint are proposed. It was what the system of these former inputs the alphabetic character written by him etc. into an information processor by the picture input device, carries out pattern recognition with an information processor, extracts the pattern in its own hand, and creates a font from this extracted description (JP,5-89120,A, JP,6-259425,A).
[0006] On the other hand, the alphabetic character designed by itself, a notation, a graphic form, a logo mark, etc. are inputted into an information processor through a picture input device, the outline font by the standard Page Description Language is created with this information processor, and the application software which enabled it to register this font as the typeface and external character of a text alphabetic character is offered. [handwriting or]

[0007]
[Problem(s) to be Solved by the Invention] In the conventional system which extracts the descriptions, such as a body alphabetic character in its own hand mentioned above, and creates a font, it did not pass in the typeface similar to an autograph, and was not able to be said as the body in its own hand itself. Then, un-arranging [which mentioned it above when installing the font which becomes an information processor from the typeface in its own hand itself about the whole sentence character] will be solved. Although the application software which creates the outline font mentioned above as the means could be used, since the software was premised on an individual application being presented, it had to perform various kinds of commands by manual operation, and processing of a lot of handwriting alphabetic characters corresponding to a whole sentence character etc. took a great effort and time amount to it, and it was difficult as a matter of fact.
[0008] Since this is coped with, it is possible to convert the above-mentioned font creation processing software into autonomous working, but in order to carry out the image input of a lot of handwriting alphabetic characters etc. correctly [are a high speed and] even in such a case, a device is required for calligraphy, the image input approaches, etc., such as a handwriting alphabetic character.
[0009] This invention was made in view of the point mentioned above, and sets it as the 1st purpose to offer the approach of inputting the body alphabetic character in one's own hand etc. into the body character-manipulation system in one's own hand which can perform efficiently and correctly the image input and font creation processing of a lot of handwriting alphabetic characters etc. Moreover, this invention sets it as the 2nd purpose to offer the approach of using the body font data in one's own hand obtained by the approach of inputting the body alphabetic character in one's own hand etc., and the body font data in one's own hand concerned.
[0010]
[Means for Solving the Problem] In order to attain the 1st purpose mentioned above, the input approaches, such as a body alphabetic character in one's own hand concerning invention according to claim 1 The image input of the alphabetic character which consists of the alphabetic character of the body in its own hand, a figure, a notation, etc. is carried out through a picture input device. Create outline data, such as an alphabetic character, from this image, and that outline data is changed into the outline font of the body in its own hand based on a standard Page Description Language. In the approach of making the body alphabetic character in one's own hand etc. inputting into the body character-manipulation system in one's own hand which can register the outline font of this body in its own hand as the typefaces and external characters of a text alphabetic character, such as a personal computer The magnitude and physical relationship with the appointed field which specify the range when incorporating to the body character-manipulation system in one's own hand by making into image data the body alphabetic character in one's own hand filled in as the copyboard in which said alphabetic character etc. is entered into the copyboard concerned Based on positioning in texts, such as each alphabetic character, it sets up so that the text of the handwriting of the origin which the text constituted with the body font in its own hand depends on the body alphabetic character in its own hand etc. may be reproduced faithfully. With entry sheets, such as a body alphabetic character in its own hand which comes to arrange many copyboards concerned, it is characterized by carrying out the image input of the body alphabetic character in one's own hand etc. In order to attain the 2nd purpose mentioned above, the body font data in its own hand concerning invention according to claim 2 is characterized by being the ****** thing to obtain by the input approaches, such as a body alphabetic character in one's own hand according to claim 1. In order to attain the 2nd purpose mentioned above, operation of the body font data in its own hand concerning invention according to claim 3 is characterized by creating printed matter to an airline printer using the body font data in one's own hand according to claim 2. In order to attain the 2nd purpose mentioned above, operation of the body font data in its own hand concerning invention according to claim 4 is characterized by using the body font data in one's own hand according to claim 2 for creation and a display of a printing object on electronic media, such as a personal computer, television, the Internet, a cellular phone, or car navigation.
[0011]

[Embodiment of the Invention] Hereafter, with reference to a drawing, it explains per gestalt of operation of this invention. Drawing 1 thru/or drawing 11 are drawings for explaining the input approaches, such as a body alphabetic character in one's own hand concerning the gestalt of operation of this invention. Drawing 1 is the block diagram showing the body character-manipulation system in one's own hand by which the input approaches, such as a body alphabetic character in their own hand concerning the gestalt of operation of this invention, are applied. In this drawing 1 , general classification of the body character-manipulation system 1 in its own hand constitutes it from an image scanner 5 which is an image input means, an information processor 7, and command sending-out equipment 9.

[0012] Moreover, the entry sheets 3, such as an alphabetic character, are used by the input approaches, such as a body alphabetic character in their own hand concerning the gestalt of operation of this invention. Although later mentioned about the detail of the entry sheets 3, such as said alphabetic character, the entry sheets 3, such as an alphabetic character, consist of many entry sheets 3a, 3b, and 3c in their own hand, and -- according to the number of alphabetic characters which creates the body font in its own hand. When the part enclosed with with a circle [of the entry sheets 3, such as an alphabetic character,] is expanded and explained, entry sheet in its own hand 3a is a form with which the copyboards 31a, 31b, and 31c for filling in the handwriting alphabetic character of 1 character etc. at a time, --, etc. are printed at the predetermined spacing, for example.

[0013] The above-mentioned image scanners 5 are the writing close sheets 3a, 3b, and 3c and equipment of -- which can obtain an image as image data of a bit map each one by carrying out automatic feeding and scanning automatically the entry sheets [finishing / entry of the entry sheets 3, such as said alphabetic character,] 3a, 3b, and 3c in one's own hand, and -- for every sheet.

[0014] The above-mentioned information processor 7 consists of the body 71 of a computer, a keyboard 72, a mouse 73, a display 74, and storage write-in equipment 75 that what is necessary is just to constitute from a personal computer etc. A keyboard 72, a mouse 73, a display 74, and storage write-in equipment 75 are connected to the body 71 of a computer. Moreover, an image scanner 5, the printer 76 for checking the printing condition of the body font in one's own hand, and command sending-out equipment 9 are connected to the body 71 of a computer. By this body 71 of a computer, the body character-manipulation system 1 in its own hand is realized by reading into main memory the operating system in a hard disk drive unit, and the program of application software ASa and ASb mentioned later, and executing it.

[0015] Said command sending-out equipment 9 is equipment to which the above-mentioned application software usually sends out a command automatically to operating by the command of a manual operation, and enables it to perform program manipulation of application software by autonomous working at high speed. The time amount which sends out the class of actuation of the keyboards 72, such as a location (X, Y coordinate) of the cursor on the screen of a display 74, actuation of the mice 73, such as a click and DORAKKU, and copy, deletion, and a command of this etc. as command data can be inputted into this command sending-out equipment 9. If actuation of command sending-out equipment 9 is made to start, the program of application software will be performed automatically at high speed.

[0016] Said body character-manipulation system 1 in its own hand can display the entry sheets 3a, 3b, and 3c in its own hand incorporated from said image scanner 5, and the image data of -- on a display 74 for every image data of each entry sheet, can create an outline font through the above-mentioned command sending-out equipment 9 for every character from the image data, and can register the outline font concerned into a predetermined storage area as the typeface and external character of a text alphabetic character.

[0017] Drawing 2 is drawing for explaining why the entry sheet in its own hand of entry sheets, such as an alphabetic character used as the input approaches, such as a body alphabetic character in its own hand, is obtained, and drawing 2 (a) is drawing for drawing 2 (b) making the configuration of the entry sheet in its own hand of entry sheets, such as an alphabetic character according the example of a configuration of the text by the font to this invention, contrast with drawing 2 (a), and explaining.

[0018] On the sheet-like form 20 of predetermined magnitude, the text indicated "Our company is O**",

for example as shown in drawing 2 (a) shall be. In the example of drawing 2 (a), although displayed in the handwritten alphabetic character etc., since drawing 2 (a) explains the example of a configuration of a general text, it may be displayed with the standard lives font. In that case, drawing 2 (b) serves as the same display. The frames 21 and 21 of a broken line and -- express the range of full-width characters Ja and Jb and the font per character of --. Moreover, the frames 22 and 22 of a broken line and -- express the range of half-width characters Ka and Kb and the font per character of --. The usual text is realized in the continuum of the range of such a font per character as shown in drawing 2 (a). Drawing 2 (b) shows the range which an alphabetic character etc. occupies in the broken line which showed the range of a font with the square of a continuous line in above-mentioned drawing 2 (a). While using the inside of the frame of a continuous line as a blank paper and newly filling in the same alphabetic character etc. into the frame here according to the magnitude and the location of a frame of a continuous line If it incorporates in the range of a broken line and a font is created in case the alphabetic character etc. is incorporated as image data, it will mean that the text which consists of those fonts becomes completely the same as drawing 2 (a), and the alphabetic character of drawing 2 (a) etc. was reproduced. As opposed to the frames 21 and 21 of a broken line, --, 22 and 22, and -- Then, the frames 23a and 23b of a continuous line, --, While defining beforehand the magnitude of 24a, 24b, and --, and the relation of a location strictly according to classes, such as an alphabetic character, and filling in a handwriting alphabetic character etc. into these continuous-line frames 23a and 23b, --, 24a and 24b, and -- In case image data is incorporated by the body character-manipulation system 1 in its own hand, the range of the image data in every character the frames 21 and 21 of a broken line, --, by making it agree with 22, 22, and -- strictly, and incorporating The body font in its own hand which constitutes the text which reproduces faithfully the text of the handwriting of the origin depended on the body alphabetic character in its own hand etc. can be created. In addition, henceforth, these broken-lines frames 21 and 21, --, 22 and 22, and -- are named the "appointed field" generically, and let 24a, 24b, 24c, and -- be the continuous-line frames 23a, 23b, and 23c, --, the thing named a "copyboard" generically.

[0019] Drawing 3 thru/or drawing 7 are drawings for explaining the example of entry sheets, such as an alphabetic character used by the input approaches, such as this body alphabetic character in its own hand. Drawing 3 (a) thru/or drawing 3 (d) are drawings for explaining the copyboard of the entry sheet in one's own hand of entry sheets, such as an alphabetic character, and the relation of the appointed field. In addition, although the broken-line frames 32 and 32, --, 33 and 33, and -- express the appointed field at the broken-line frames 21 and 21 of drawing 2 , --, the time of carrying out an image input by the body character-manipulation system 1 in one's own hand like 22, 22, and -- and have indicated by the expedient upper dotted line of explanation, the broken line is not necessarily printed by the actual entry sheet in its own hand.

[0020] The copyboards 31a and 31a which drawing 3 (a) shows the example of an array of a full-size notation, and are shown as a continuous line and in which a notation is entered, and -- are arranged in various locations which inclined toward rightist inclinations, the left, or four corners according to the class of notation to the appointed fields 32 and 32 shown with a broken line, and --. These locations come out from the role of the notation in a text.

[0021] The copyboards 31b and 31b in which the alphabet capital letter of half width which drawing 3 (b) shows the example of arrangement of the half-width alphabet, and is shown as a continuous line, and a small letter are entered, and -- are arranged like drawing 3 (b) the appointed fields 32 and 32 of said full width shown with a broken line, the appointed fields 33 and 33 of the one half of width of face of --, and in --. When [of the copyboards 31b and 31b of the capital letter of each alphabet, and a small letter, and --] a text is constituted, height, width of face, and up-and-down physical relationship are connected so that it may be arranged tidily. In addition, although the appointed field width of face (it is the width of face of a font when it becomes a font), such as a half-width character, is set as the one half of width of face, such as a full-width character, in drawing 2 and drawing 3 (b), it is not necessary to necessarily make it half. For example, in the small letter of the alphabet, "i" and "l" are narrower than one half, and can improve "m" and "w" ATTA balance to the body font in their own hand by setting up more widely than one half.

[0022] In the appointed fields 32 and 32 shown with a broken line, and --, the copyboards 31c and 31c in which the capital letter and small letter of the full-size katakana which drawing 3 (c) shows the example of arrangement of full-size katakana, and is shown as a continuous line are entered, and -- are arranged so that the base of a capital letter and a small letter may gather in a straight line. In addition, in the case of columnar writing, it becomes rightist inclinations, although the example of arrangement of drawing 3 (c) is the case of lateral writing and the small letter of a kana has become bottom approach. Moreover, for example, the location of punctuation serves as the upper right. Thus, since arrangement of the small letter of a kana and some notations changes in the case of columnar writing, arrangement of copyboards, such as these alphabetic characters, is also newly set up as an object for columnar writing.
[0023] The copyboards 31d and 31d which drawing 3 (d) shows the magnitude and physical relationship of a copyboard of the kanji and a kana, and are shown as a continuous line and in which a kana is entered as the kanji, and -- are arranged as shown in drawing 3 (d) in the appointed fields 32 and 32 shown with a broken line, and --. By the way, although the magnitude of the kanji and a kana is usually the same, in a handwritten text, in the case of a standard-lives font, it is large in the kanji, and it usually writes a kana small in many cases. although the ratio of this magnitude has individual difference, according to research of an artificer, it is shown in drawing 3 (d) -- as -- L1 L2 if a definition is given -- L1/L2 =1.5 -1.8 it is . Moreover, it will be set to deltaL/L1 =0.05-0.08, if spacing of the horizontal line passing through each core of the kanji and a kana is defined as deltaL as shown in drawing 3 (d). The relation of such a kanji and a kana is the big description which was conspicuous only in the body font in its own hand which is not in a standard-lives font. When capturing an image since there is individual difference in this ratio as mentioned above, if one of magnitude is changed according to individual difference among the appointed field 32 of the kanji, or the appointed field 32 of a kana, this ratio can be changed substantially.
[0024] As are shown in drawing 3 (a) thru/or drawing 3 (d), and mentioned above, each entry sheets 3a, 3b, and 3c in their own hand and -- which fill in a handwriting alphabetic character etc. are constituted as follows so that the text of the handwriting of the origin which the text constituted by the body font in its own hand depends on the body alphabetic character in its own hand etc. may be reproduced faithfully. Namely, the entry sheets 3a, 3b, and 3c in their own hand and -- which constitute the entry sheets 3, such as an alphabetic character In the body character-manipulation system 1 in one's own hand, determine beforehand the field at the time of incorporating the image data in every character strictly, and it sets inside the determined fields 32 and 32, --, 33 and 33, and --. The big description of this invention is [the copyboards 31a and 31b in which a handwriting alphabetic character etc. is entered according to classes, such as alphabetic characters, such as an alphabetic character, a notation, a graphic form, and a logo mark, and / of --] that it carried out setting arrangement of a location and the magnitude strictly.
[0025] Drawing 4 thru/or drawing 7 show the example of the entry sheet in their own hand of entry sheets, such as an alphabetic character used by this body character-manipulation system in its own hand. Drawing 4 shows the example of the entry sheet in its own hand of filling in a half-width alphanumeric alphabetic character etc. among entry sheets, such as an alphabetic character. This entry sheet in its own hand 3a embraces the class of the capital letter of the alphabetic character of half width, a small letter, and notation, and is the appointed field (not shown). In the body character-manipulation system 1 in their own hand, the copyboards 31a and 31b for entry of a handwriting alphabetic character etc. and -- are set up to the field at the time of incorporating image data in various magnitude and locations. black and white of the image which is captured in printing these copyboards 31a and 31b and -- by the predetermined color (for example, thin blue), and incorporating image data with an image scanner 5 -- by setting up the binary threshold with the image scanner 5, although a handwriting alphabetic character etc. is incorporated, a copyboard is incorporated. Each copyboards 31a and 31b, the capital letter of the alphabetic character as which it should enter above of --, a small letter and the examples 34a and 34b of entry of a notation (standard-lives font), and -- are printed beforehand. Moreover, Markers 35a, 35b, 35c, and 35d are printed by the four corners of this entry sheet in their own hand 3a. Although these markers 35a, 35b, 35c, and 35d are incorporated as a part of image data, it can be checked whether image data has been incorporated in the location exact on an image scanner by displaying the image data

of the incorporated whole entry sheet in one's own hand 3a on a display 74, and checking a Markers [35a, 35b, 35c, and 35d] location on a display 74.

[0026] Drawing 5 shows the example of the entry sheet in its own hand of filling in a hiragana among entry sheets, such as an alphabetic character. Drawing 6 shows the example of the entry sheet in its own hand of filling in a full-size notation etc. among entry sheets, such as an alphabetic character. Drawing 7 shows the example of the entry sheet in its own hand of filling in kanjis of the entry sheets, such as an alphabetic character.

[0027] What is necessary is just to change the total pagination of the entry sheets 3, such as an array, an alphabetic character, etc. of an alphabetic character etc., in the example of drawing 4 thru/or drawing 7 , according to whole sentence number of letters, although the maximum numbers, such as an alphabetic character, are 80 characters in ten lines and eight trains in each 1-page configuration of the entry sheets 3, such as an alphabetic character. Moreover, in drawing 4 thru/or the real train of drawing 7 , although examples of entry (standard-lives font), such as an alphabetic character, are printed on the copyboard, they may be changed into the left of a copyboard, the right, or the bottom according to first trains, such as an alphabetic character.

[0028] Based on drawing 1 thru/or drawing 7 , actuation of the body character-manipulation system 1 in its own hand of such a configuration is explained with reference to drawing 8 and drawing 9 . It is made the thing of each entry sheets 3a, 3b, and 3c in its own hand of the entry sheets 3, such as an alphabetic character, the copyboards 31 and 31 of --, and -- beforehand written down for the handwriting alphabetic character etc. in inside with reference to said copyboards 31 and 31, the examples 34 and 34 of entry of -- indicated above, and --.

[0029] [Incorporation actuation of image data] drawing 8 is the explanatory view showing the example of the image data stored in the predetermined storage area of the hard disk drive unit in an information processor. First, the application software ASa for image incorporation is installed in the body 71 of a computer of an information processor 7. Next, the entry sheets [finishing / entry] 3a and 3b in their own hand and all the sheets of -- are installed in the position of an image scanner 5, and an image scanner 5 is set as the mode of an automatic scan. Although command sending-out equipment 9 is equipment which sends out the command which automates the mouse 73 of an information processor 7, and actuation of a keyboard 72, if actuation of this command sending-out equipment 9 is made to start, an image scanner 5 will carry out the automatic scan of the entry sheets 3a, 3b, and 3c in its own hand, and all the sheets of -- for every sheet, as mentioned above. A file number is attached by the command of command sending-out equipment 9 for every sheet, and the obtained image data is memorized one after another by the predetermined storage area of the hard disk drive unit of the body 71 of a computer. It means that the image data 300a, 300b, 300c, --, 300n corresponding to the entry sheets 3a, 3b, 3c, --, 3n in its own hand was stored in predetermined storage area 70A of a hard disk drive unit by this as shown in drawing 8 . File numbers F001, F002, F003, --, F014 are given to these image data 300a, 300b, 300c, --, 300n, respectively.

[0030] [Creation actuation of the body font in their own hand], next creation actuation of the body font in their own hand are explained briefly below. Drawing 9 is drawing for explaining the procedure which carries out sequential migration of the appointed field in the body character-manipulation system in its own hand, and carries out font creation processing of the handwriting alphabetic character etc. for every character. First, the body character-manipulation system 1 in its own hand is realized by installing the application software ASb for the body font creation processing in one's own hand in the body 71 of a computer of an information processor 7, and executing the program. In this case, like the means which automated incorporation of image data, with command sending-out equipment 9, the body 71 of a computer which installed said automatic font creation processing software is automated, and creation processing of the body font in its own hand is carried out.

[0031] In the body character-manipulation system 1 in one's own hand, first, if actuation of command sending-out equipment 9 is made to start, the body 71 of a computer will take out one image data 300a of a file number F001 from predetermined storage area 70A of a hard disk drive unit, and will display it on the screen of a display 74. Image data 300a of the file number F001 displayed after this display 74 is

displayed as image 400a, as shown in drawing 9 . In order that a broken line may carry out font creation processing of the image data for every character in drawing 9 , the appointed field 321 at the time of incorporating on the body 71 of a computer, 322, and -- are shown.

[0032] In case, as for the reason the copyboard currently printed by the entry sheet in its own hand is not displayed although the appointed field 321, 322, the handwriting alphabetic character of -- that should carry out font creation processing in inside are illustrated, image data is incorporated with an image scanner 5 as above-mentioned, it is because the copyboard was not incorporated by setup of a scanner.

[0033] Here, in order to perform font creation processing of the 1st handwriting alphabetic character etc. first, it is the appointed field 321 by the command of command sending-out equipment 9. The outline of the image is calculated by being specified and being incorporated for processing of the image data of the field. Next, the standard-character code corresponding to this outline data in that alphabetic character etc. is given, these data are memorized in 1 character, and a series of processings of the 1st handwriting alphabetic character etc. are completed. Based on the command of the command sending-out equipment 9 which continued serially, these the processings of a series of name these commands generically, and have displayed them as s201 by drawing 9 . These commands consist of a location (X, Y coordinate) of the cursor on a display 74 moth being disadvantage, a class of actuation of a mouse 73 and a keyboard 72, and time amount that sends out a command, automate said body font creation processing software in their own hand by these commands, and are performing a series of above-mentioned processings as mentioned above.

[0034] Next, font creation processing of the 2nd handwriting alphabetic character etc. is performed. Command sending-out equipment 9 is the appointed field 321. The appointed field 322 In order to make it move, it is the appointed field 321. It is the appointed field 322 about a main coordinate. The command made to drag to a main coordinate is sent out (S202). It is the appointed field 322 by it. An image is specified and the same processing as processing of the 1st alphabetic character etc. is performed henceforth (S203). Furthermore, by the same procedure as the above, the appointed field is moved one after another with 323, 324, and --, a handwriting alphabetic character etc. is processed for every character (S204, S205, --), and all these data are memorized temporarily each time.

[0035] Hereafter, command sending-out equipment 9 sends out the command which takes out image data 300b of the following file number F002 from predetermined storage area 70A, after processing of all one handwriting alphabetic character of image data 300a etc. is completed. The above-mentioned actuation will be repeated until it processes this image data 300b like said image data 300a and processing of a file number F014 is completed henceforth. After processing of a file number F014 is completed, processing of outline data, such as all handwriting alphabetic characters, will be completed, and the outline data aggregates, such as a body alphabetic character in their own hand to which the character code was given, will be memorized temporarily.

[0036] Here, the outline data aggregate to which the above-mentioned character code was given is collectively changed into the font based on a standard Page Description Language with the body font creation processing software in its own hand. It becomes the font of an usable standard format also with a general-purpose personal computer and a general-purpose word processor by this conversion. Thus, the created body font data in its own hand is stored in the font of the operating system of the body 71 of a computer as the typeface and external character of the same text alphabetic character as other standard-lives fonts. Thus, the body font data in its own hand which is created and is stored in the hard disk drive unit is read with the body 71 of a computer, by storage write-in equipment 75, will be written in a storage 80 and will be offered.

[0037] The appointed fields 32 and 32 and -- are moved one after another for every one time by the command (S202, S204, --) of command sending-out equipment 9, and using the entry sheet in one's own hand made into the format which was suitable for the above-mentioned processing by carrying out the a large number array of the copyboard as it indicates drawing 4 thru/or drawing 7 that it can carry out at high speed is the description that this invention is correctly big, about font creation processing of a lot of handwriting alphabetic characters etc. as shown in drawing 9 .

[0038] In addition, although the appointed fields 32 and 32 shown in drawing 9 and the magnitude of --

are respectively the same and spacing is also fixed In order to adjust the point which has individual difference in the ratio of the kanji and a kana as explanation of drawing 3 (d) also described for example What is necessary is just to change assignment area size in an alphabetic character etc. suitably also in adjustment of the magnitude between other alphabetic characters, such as an alphabetic character and a notation, that what is necessary is just to change the assignment area size of either the kanji or a kana. Furthermore, what is necessary is not to be regular intervals about the location of the appointed field, either, and just to change suitably if needed. What is necessary is just to input beforehand the information on these assignment area size or a location as coordinate data into the command data of command sending-out equipment 9. However, in any case, the magnitude of the appointed field and a copyboard and the relation of a location must be defined strictly.

[0039] As explained above, in the body character-manipulation system 1 in one's own hand It is set as predetermined relation to the appointed fields 32 and 32 at the time of incorporating image data for magnitude and a location of the copyboards 31a and 31b which write in an alphabetic character etc., and --, and --. The entry sheets 3a, 3b, and 3c in their own hand of the entry sheets 3, such as these copyboards 31a and 31b and an alphabetic character which comes to arrange much --, and -- are used. The entry sheets 3a, 3b, and 3c in their own hand of the entry sheet 3, the alphabetic characters of -- as which each copyboards 31a and 31b and -- were filled in, such as these alphabetic characters, are incorporated to an information processor 7 through an image scanner 5. Create outline data for every character from these image data, and an outline font is created by the standard Page Description Language from these outline data. Since the outline font concerned was registered as the typeface and external character of a text alphabetic character While being able to make a lot of handwriting alphabetic characters etc. into the body font data in one's own hand at high speed, when a text is constituted, the body font data in its own hand which reproduces faithfully the text of the handwriting of the origin depended on the body alphabetic character in its own hand etc. can be obtained. In addition, without being limited to this, the body character-manipulation system 1 in its own hand is built by a large-sized computer etc., and you may make it obtain the body font data in your own hand by the body character-manipulation system 1 in your own hand concerned, although the example which builds the body character-manipulation system 1 in its own hand, for example using the information processor 7 with a personal computer etc., and obtains the body font data in its own hand by this body character-manipulation system 1 in its own hand explained with the gestalt of the above-mentioned implementation. For example, the information processor 7 which a font creation contractor owns is used, and you may make it obtain the body font data in your own hand.

[0040] Drawing 10 is the block diagram showing the example of a configuration of the information processor which uses the body font in its own hand obtained by the approach mentioned above. Drawing 11 is drawing showing the example of printing which used this body font in its own hand. In this drawing 10 , in order to use the body font in one's own hand, application software, such as information-processor 7a and a word processor currently used by the usual text creation, is needed. This information-processor 7a consists of body of computer 71a, keyboard 72a, mouse 73a, and display 74a. Moreover, storage read in equipment 77a and printer 76a are connected to body of computer 71a. The application software ASc, such as a word processor, is installed in this body of computer 71a. In order to use the above-mentioned body font in one's own hand, the body font data in its own hand is first installed in the hard disk drive unit of body of computer 71a from the storage 80 with which the above-mentioned body font in its own hand is written in.

[0041] Next, according to the usual document preparation procedure, from keyboard 72a, it inputs, "Our company is O**" and a text is created. Subsequently, after choosing the body font data in one's own hand as a font used by printing in printing this document, said text is printed out in printer 76a. Consequently, as shown in drawing 11 , the text 500 by the body font in its own hand will be printed. In addition, although the body font data in its own hand was chosen in the above-mentioned procedure at the time of printing, a text may be created, choosing the body font data in one's own hand, and displaying the body font in its own hand on display 74a, before creating a text. In the explanation mentioned above, although the example used by information-processor 7a which installed application

software, such as a word processor, explained the above-mentioned body font in its own hand, it is not limited to this. For example, the above-mentioned body font in its own hand can be applied to the electronic formula airline printer currently used by the publishing business, advertising business, etc.; and it can also be used for manufacture of the publication in the alphabetic character in a writer's own hand, manufacture of the printed matter in the alphabetic character in talent's own hand, etc.

[0042] Moreover, although the above-mentioned example described the case of printing, also in other information processors, the electronic mail of the body font in its own hand can be perused or printed out by sending the body font data in one's own hand on-line to other information processors from the information processor which installed not only printing but the body font in its own hand. If the body font data in its own hand is beforehand installed in other information processors, the electronic mail of the body font in its own hand is realizable by transmission of only the usual text alphabetic character. Here, communication lines, such as a wire telephone circuit, a radio telephone network, the Internet, a fiber-optic communications network, a satellite communication network, and CATV, are used for online. other information processors further again -- the body font in one's own hand -- online -- transmission or storing beforehand -- being concerned -- others -- in an information processor, the creation and the display of an electronic printing object by the body font in their own hand are attained. here -- being concerned -- others -- as an information processor, a personal computer, a television receiver, an Internet terminal, a cellular phone, car navigation, etc. can be mentioned, for example. Since it becomes possible to use the body font in one's own hand in an information processor as mentioned above, it can provide as a document which arranged the alphabetic character with the various and individual creation document by the information processor which was uniform in many cases and impersonal.

[0043] As a storage 80 explained in the gestalt of the above-mentioned implementation, it is possible to use a floppy disk, CD-ROM, CD-R, CD-RAM, MO, zip and jaz, DVD-ROM, DVD-R, DVD-RAM, etc. In addition, in the case of ROM, it is made through the equipment which can be written in.

[0044]

[Effect of the Invention] The magnitude and the location of a copyboard as which an alphabetic character etc. is entered in the body character-manipulation system in its own hand to the field which captures an image according to invention according to claim 1 as explained above are set as predetermined relation. Since it was made to carry out at the body character-manipulation system in its own hand by using entry sheets, such as an alphabetic character made into the format as which an alphabetic character etc. is entered in the copyboard concerned, and many alphabetic characters etc. can be filled in by arranging a majority of these copyboards, the image input While being able to make a lot of handwriting alphabetic characters etc. into the body font in one's own hand at high speed, when a text is constituted, it is effective in the ability to obtain the body font in one's own hand which reproduces faithfully the text of the handwriting of the origin depended on the body alphabetic character in its own hand etc. Since the body font data in its own hand can be obtained by the input approach mentioned above according to invention according to claim 2, a handwriting alphabetic character can be made to output from an information processor, and the text which arranged the various and individual alphabetic character for it a display or by processing it as it was can be created. According to invention according to claim 3, it becomes possible to create the printed matter of a handwriting alphabetic character or the alphabetic character which processed it by using the body font data in one's own hand mentioned above for an airline printer. According to invention according to claim 4, it becomes possible to give the creation and the display of a printing object in the alphabetic character which processed a handwriting alphabetic character or it on those electronic media by using the body font data in one's own hand mentioned above for a personal computer, television, the Internet, a cellular phone, car navigation, etc.

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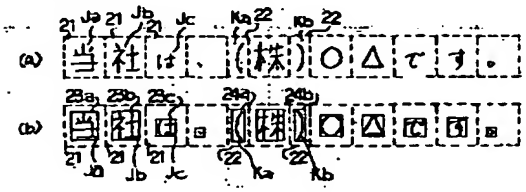
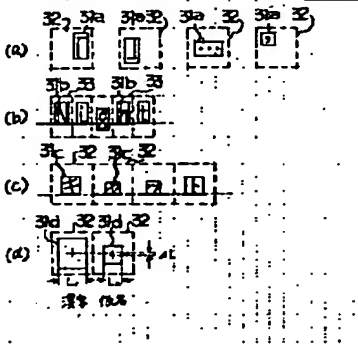
DRAWINGS

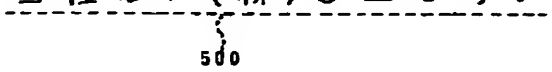
[Drawing 2]



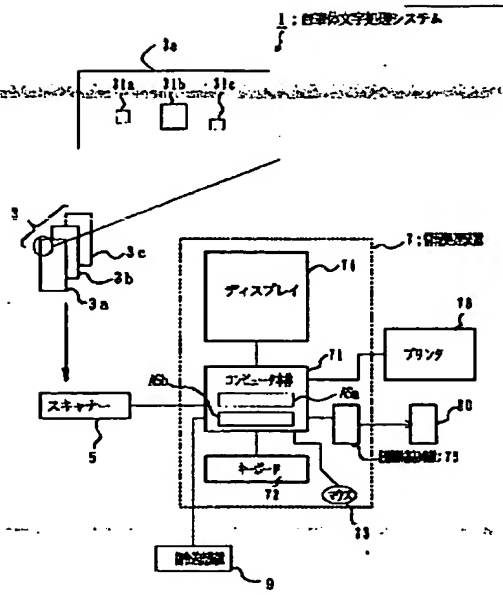
[Drawing 3]



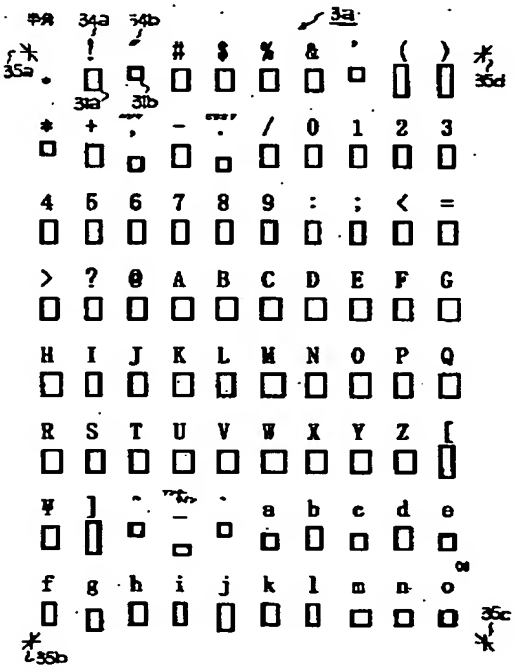
[Drawing 11]



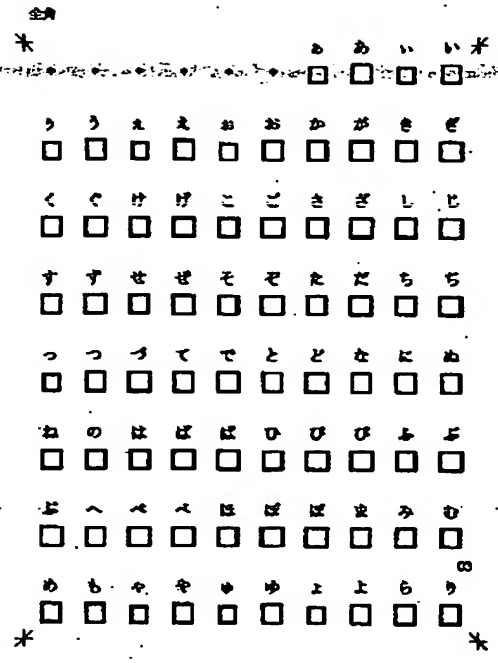
[Drawing 1]



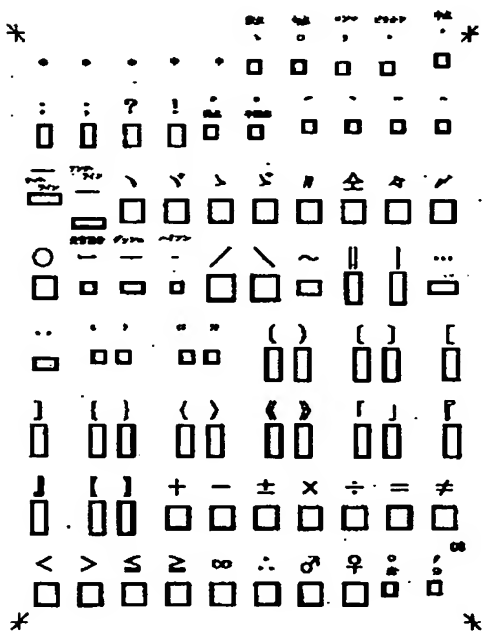
[Drawing 4]



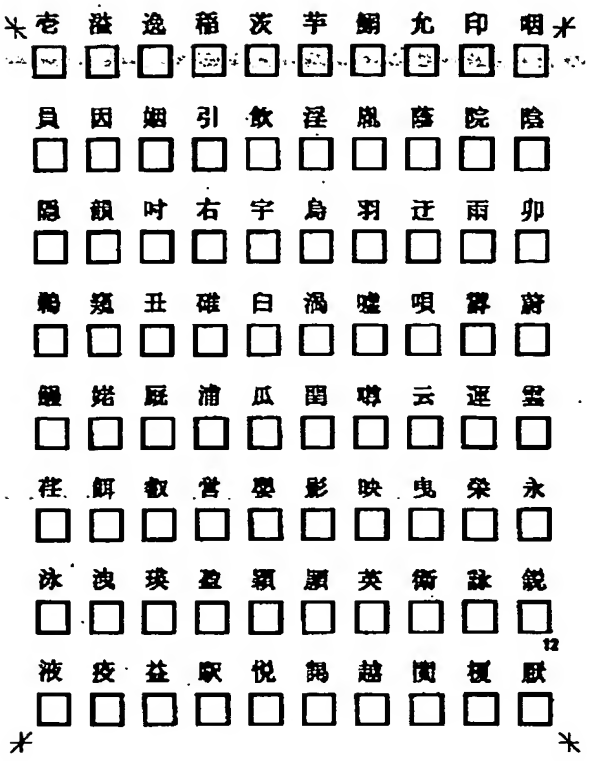
[Drawing 5]



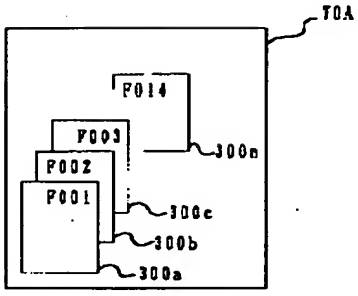
[Drawing 6]



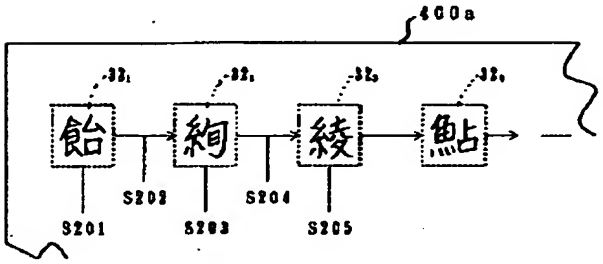
[Drawing 7]



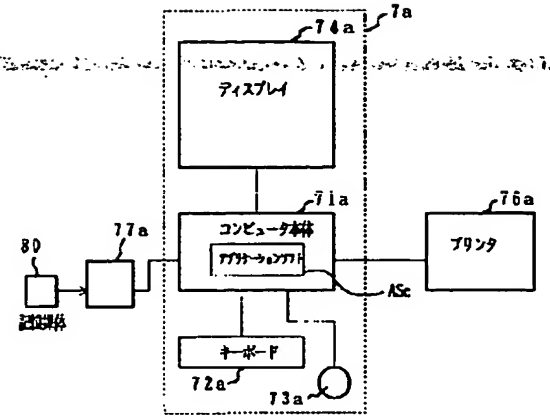
[Drawing 8]



[Drawing 9]



[Drawing 10]



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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the body character-manipulation system in one's own hand which realizes the gestalt of operation of this invention.
[Drawing 2] It is drawing for explaining the basic configuration of the entry sheet in one's own hand in entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 3] It is drawing for explaining the copyboard of the entry sheet in one's own hand and the relation of the appointed field to entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 4] It is drawing showing the example of the entry sheet in one's own hand of filling in the alphanumeric alphabetic character of half width etc. among entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 5] It is drawing showing the example of the entry sheet in one's own hand of filling in a hiragana among entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 6] It is drawing showing the example of the entry sheet in one's own hand of filling in the notation of full width etc. among entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 7] It is drawing showing the example of the entry sheet in one's own hand of filling in the kanji among entry sheets, such as an alphabetic character used by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 8] It is the explanatory view showing the example of the image data stored in the predetermined storage area in an information processor in the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 9] It is drawing for explaining the procedure of carrying out sequential migration of the appointed field in the body character-manipulation system in one's own hand which realizes the gestalt of operation of this invention, and processing a handwriting alphabetic character etc. for every character.

[Drawing 10] It is the block diagram showing the example of a configuration of the information processor which uses the body font in its own hand obtained by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Drawing 11] It is drawing showing the example printed using the body font in its own hand obtained by the body character-manipulation system in its own hand which realizes the gestalt of operation of this invention.
[Description of Notations]
1 Body Character-Manipulation System in One's Own Hand
3 Entry Sheets, Such as Alphabetic Character

3a, 3b, 3c, -- Entry sheet in one's own hand
5 Image Scanner
7 7a Information processor
9 Command Sending-Out Equipment
21, 21, --, 22 and 22, -- Frame of a broken line
23a, 23b, --, 24a and 24b, -- Frame of a continuous line
31a, 31b, 31c, -- Copyboard
32, 32, --, 33 and 33, -- The appointed field
34a, 34b, -- Example of entry
35a, 35b, 35c, 35d Marker
70A Storage area
71 71a Body of a computer
72 72a Keyboard
73 73a Mouse
74 74a Display
75 Storage Write-in Equipment
76 76a Printer
77a Storage read in equipment
80 Storage

[Translation done.]